

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

The certified copy has been filed in parent Application No. PCT/CH03/00408, filed on June 23, 2003.

Drawings

2. The drawings were received on January 14, 2005. These drawings are hereby approved.

Specification

3. The abstract of the disclosure is objected to because it does not avoid phrases which can be implied (i.e., "The invention relates to") and also because it does not avoid legal phraseology normally reserved for claims (i.e., "comprises"). Correction is required. See MPEP § 608.01(b).
4. The disclosure is objected to because of the following informalities: the specification does not include the proper section headings (see below).

Appropriate correction is required.

5. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.

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- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Objections

6. Claims 22 and 23 are objected to because of the following informalities: the phrase " , in particular," should be removed from these claims for improved readability. Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 2, 3, 7, and 15 through 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear what exactly is meant and encompassed by the limitations "a different grain proportion as compared with the at least one cast coating" [claim 2, lines 3-5], "a grain proportion of the at least one layer is cured to a substantially solid cast coating when a bonding agent is cured" [claim 3, lines 2-4; claim 17, lines 1-4; claim 18, lines 1-4], and, "two layers of different grain proportions" [claim 7, lines 4-5], thus rendering the metes and bounds sought by these claims and all claims depending therefrom indefinite. In particular, as written, it is not clear what exactly is meant by the term "grain proportion" and also it is not clear what relationship the bonding agent has to the remainder of the invention in terms of structure and/or function.

The term "small" in claim 15 is a relative term which renders the claim indefinite. The term "small" is not defined by the claim, the specification does not provide a standard for ascertaining the

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requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Thus, as used to qualify the angle, this term renders the same indeterminate and the claim indefinite.

Also with regard to claim 15 as written, it is not clear whether the limitations "at least one further element" as recited in lines 7-8 and "another element" as recited in line 10 of the claim refer to heat exchanger elements or to other unspecified elements, thus further rendering indefinite the metes and bounds of protection sought by the claim.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 4 through 6, 8 through 12, 19 through 24, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corbett (filed June 14, 2002).

Corbett (especially Figures 2a and 2b) discloses modular thermal panels and a corresponding method of making the same, essentially as claimed, including, for example: a fibrous mat or fibrous backing layer 6 that may include wood fiber or fiberglass (i.e., glass fibers); a cementitious cast coating layer 2 in which at least one heat exchanging conduit or PEX (flexible plastic) pipe 1 is embedded, with the at least one cast coating layer 2 adhering to the fibrous mat or fibrous backing layer 6. Aluminum hydroxide is a commonly known cement additive. While at least two branch necks per each heat exchanging conduit or PEX pipe 1 and an end connection conduit of a corresponding heat exchanger circuit are not per se disclosed by Corbett, these are implicit.

Corbett fails to disclose any of the particular cast coating layer thicknesses or the particular grain size ranges or the particular sizes of the heat exchanger conduits as recited in the claims of the instant

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invention, for example. Nevertheless, absent an indication of unexpected results due to any of these, it is hereby noted that merely optimizing the thickness of the cast coating, of the size of the heat exchanging conduits, or of the grain size ranges for the cast coating layer is not inventive. Thus, it would have been obvious to one skilled in the art at the time of invention to modify the modular thermal panels of Corbett by optimizing the cast coating layer thickness or grain size and the size of the heat exchanging conduits in order to meet specific design requirements for a given application.

11. The non-application of prior art against claims 2, 3, 7, and 16 through 18 should not be construed as an indication of allowable subject matter in the claims, but rather as an indication of the indefiniteness of these claims.

Allowable Subject Matter

12. Claims 13, 14, 25, and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Claim 15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

14. The additional prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric whose telephone number is 571-272-4909. The examiner works a flexible work schedule but can normally be reached on most days during the work week between the hours of 10:30 a.m. and 6:30 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J. Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ljiljana (Lil) V. Ciric/

Primary Examiner, Art Unit 3744